0171947en	002
0609	

Generator

GP 4000
Non-CARB

OPERATOR'S MANUAL

0171947EN

DANGER

CARBON MONOXIDE

Using a generator indoors CAN KILL YOU IN MINUTES.

Generator exhaust contains carbon monoxide (CO). This is a poison you cannot see or smell. If you can smell the generator exhaust, you are breathing CO. But even if you cannot smell the exhaust, you could be breathing CO.

- NEVER use a generator inside homes, garages, crawlspaces, or other partly enclosed areas. Deadly levels of carbon monoxide can build up in these areas. Using a fan or opening windows and doors does NOT supply enough fresh air.

- ONLY use a generator outside and far away from windows, doors, and vents. These openings can pull in generator exhaust.

Even when you use a generator correctly, CO may leak into the home. ALWAYS use a battery-powered or battery-backup CO alarm in the home.

If you start to feel sick, dizzy, or weak after the generator has been running, move to fresh air RIGHT AWAY. See a doctor. You could have carbon monoxide poison.

1. Foreword

This manual provides information and procedures to safely operate and maintain this Wacker Neuson model. For your own safety and protection from injury, carefully read, understand and observe the safety instructions described in this manual.

Keep this manual or a copy of it with the machine. If you lose this manual or need an additional copy, please contact Wacker Neuson Corporation. This machine is built with user safety in mind; however, it can present hazards if improperly operated and serviced. Follow operating instructions carefully! If you have questions about operating or servicing this equipment, please contact Wacker Neuson Corporation.

The information contained in this manual was based on machines in production at the time of publication. Wacker Neuson Corporation reserves the right to change any portion of this information without notice.

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1. Safety Information

This manual contains DANGER, WARNING, CAUTION, *NOTICE,* and NOTE callouts which must be followed to reduce the possibility of personal injury, damage to the equipment, or improper service.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE*:** Used without the safety alert symbol, ***NOTICE indicates a situation which, if not avoided, could result in property damage.

Note: *Contains additional information important to a procedure.*

1.1 Laws Pertaining to Spark Arresters

Notice: State Health Safety Codes and Public Resources Codes specify that in certain locations spark arresters be used on internal combustion engines that use hydrocarbon fuels. A spark arrester is a device designed to prevent accidental discharge of sparks or flames from the engine exhaust. Spark arresters are qualified and rated by the United States Forest Service for this purpose.

In order to comply with local laws regarding spark arresters, consult the engine distributor or the local Health and Safety Administrator.

1.2 Operating Safety

Using a generator indoors CAN KILL YOU IN MINUTES. Generator exhaust contains carbon monoxide. This is a poison you cannot see or smell. NEVER use this generator inside a home or garage, EVEN IF doors and windows are open. Only use this generator OUTSIDE and far away from windows, doors, and vents.

BACKFEED FROM THE GENERATOR INTO THE PUBLIC POWER DISTRIBUTION SYSTEM CAN CAUSE SERIOUS INJURY OR DEATH TO UTILITY WORKERS!

Improper connection of generator to a building's electrical system can allow electrical current from the generator to backfeed into utility lines. This may result in electrocution of utility workers, fire, or explosion. Connections to a building's electrical system must be made by a qualified electrician and comply with all applicable laws and electrical codes.

If connected to a building's electrical system the generator must meet the power, voltage, and frequency requirements of the equipment in the building. Differences in power, voltage, and frequency requirements may exist and improper connection may lead to equipment damage, fire, and personal injury or death.

Familiarity and proper training are required for the safe operation of the machine. Machines operated improperly or by untrained personnel can be hazardous. Read the operating instructions contained in this manual and the engine manual, and familiarize yourself with the location and proper use of all controls. Inexperienced operators should receive instruction from someone familiar with the machine before being allowed to operate it.

1.2.1 NEVER operate the generator when open containers of fuel, paint, or other flammable liquids are near.

1.2.2 NEVER operate the generator, or tools attached to the generator, with wet hands.

1.2.3 NEVER use worn electrical cords. Severe electrical shock and equipment damage may result.

1.2.4 NEVER run the electrical cords under the generator, or over vibrating or hot parts.

1.2.5 NEVER enclose or cover the generator when it is in use or when it is hot.

1.2.6 NEVER overload the generator. The total amperage of the tools and equipment attached to the generator must not exceed the load rating of the generator.

1.2.7 NEVER operate the machine in snow, rain, or standing water.

1.2.8 NEVER allow untrained personnel to operate or service the generator. The generator set should be set up by a certified electrician.

1.2.9 NEVER stand on the machine.

1.2.10 DO NOT stand under the machine while it is being hoisted or moved.

1.2.11 DO NOT attach equipment to the machine when it is suspended.

1.2.12 Store the machine properly when it is not being used. The machine should be stored in a clean, dry location out of the reach of children.

1.2.13 ALWAYS position and operate the generator on a firm, noncombustible, level surface.

1.2.14 ALWAYS transport the generator in an upright position.

1.2.15 ALWAYS keep the machine at least one meter (three feet) away from structures, buildings, and other equipment during use.

1.2.16 ALWAYS keep the area immediately surrounding and underneath the machine clean, neat, and free of debris and combustible materials. Make sure that the area overhead is clear of debris that could fall onto or into the machine or exhaust compartment.

1.2.17 ALWAYS remove all tools, cords, and other loose items from the generator before starting it.

1.2.18 ALWAYS make certain the machine is well-grounded and securely fastened to a good earthen ground per national and local regulations.

1.3 Operator Safety while using Internal Combustion Engines

WARNING

Internal combustion engines present special hazards during operation and fueling. Read and follow the warning instructions in the engine owner's manual and the safety guidelines below. Failure to follow the warnings and safety standards could result in severe injury or death.

1.3.1 NEVER use this generator inside a home or garage, EVEN IF doors and windows are open. Only use OUTSIDE and far away from windows, doors, and vents. Using a generator indoors CAN KILL YOU IN MINUTES. Generator exhaust contains carbon monoxide. This is a poison you cannot see or smell.

1.3.2 NEVER use a generator inside an enclosed area such as a tunnel or a trench.

1.3.3 Do not smoke while operating the machine.

1.3.4 Do not smoke when refueling the engine.

1.3.5 Do not refuel a hot or running engine.

1.3.6 Do not refuel the engine near an open flame.

1.3.7 Do not spill fuel when refueling the engine.

1.3.8 Do not run the engine near open flames.

1.3.9 Do not start the engine if fuel has spilled or a fuel odor is present. Move the generator away from the spill and wipe the generator dry before starting.

1.3.10 Refill the fuel tank in a well-ventilated area.

1.3.11 Replace the fuel tank cap after refueling.

1.3.12 ALWAYS check the fuel lines and the fuel tank for leaks and cracks before starting the engine. Do not run the machine if fuel leaks are present or the fuel lines are loose.

1.4 Service Safety

Poorly maintained equipment can become a safety hazard! In order for the equipment to operate safely and properly over a long period of time, periodic maintenance and occasional repairs are necessary. If the generator is experiencing problems or is being serviced, attach a "DO NOT START" sign to the control panel to notify other people of its condition.

1.4.1 Do not use gasoline or other types of fuels or flammable solvents to clean parts, especially in enclosed areas. Fumes from fuels and solvents can become explosive.

1.4.2 DO NOT attempt to clean or service the machine while it is running.

1.4.3 Do not modify the machine without the express written approval of the manufacturer.

1.4.4 DO NOT allow water to accumulate around the base of the machine. If water is present, move the machine and allow the machine to dry before servicing.

1.4.5 DO NOT service the machine if your clothing or skin is wet.

1.4.6 DO NOT allow untrained personnel to service this equipment. Only trained electrical technicians should be allowed to service the electrical components of this equipment.

1.4.7 Keep the machine clean and labels legible. Replace all missing and hard-to-read labels. Labels provide important operating instructions and warn of dangers and hazards.

1.4.8 ALWAYS replace the safety devices and guards after repairs and maintenance.

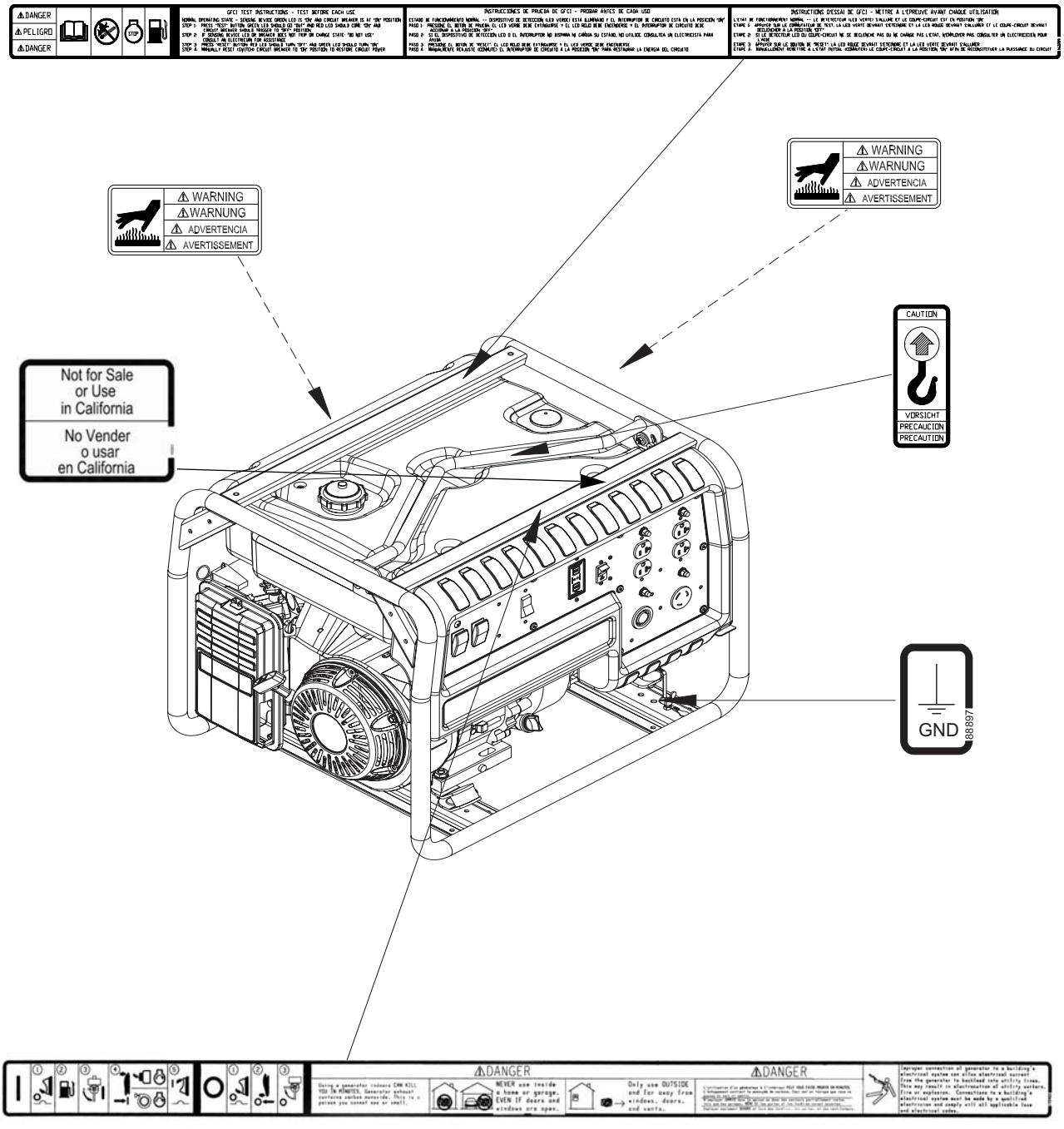
1.4.9 ALWAYS let the engine cool before transporting or servicing the machine.

1.4.10 ALWAYS keep hands, feet, and loose clothing away from the moving parts on the generator and engine.

1.4.11 ALWAYS turn the engine off before servicing the machine. If the engine has electric start, disconnect the negative terminal on the battery before servicing the machine.

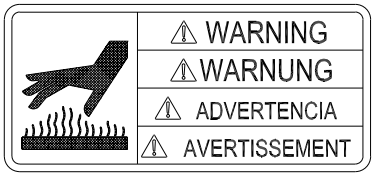
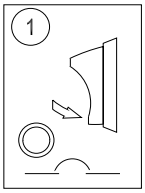
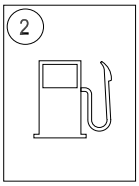
1.4.12 ALWAYS keep the fuel lines in good condition and properly connected. Leaking fuel and fumes are extremely explosive.

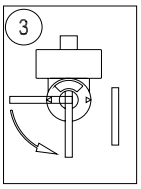
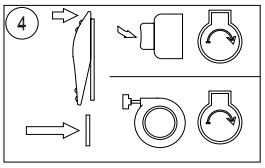
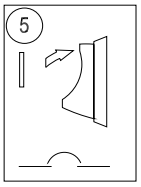
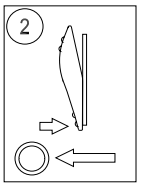
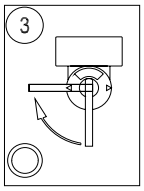
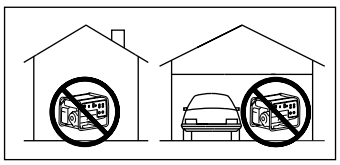
1.5 Label Locations

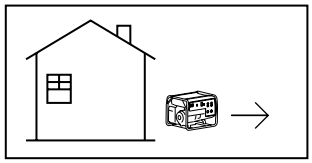
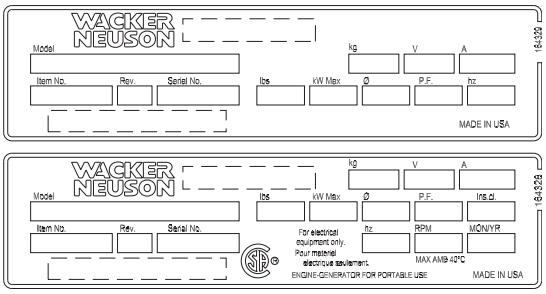


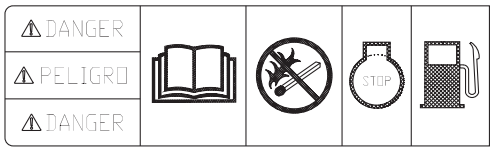
1.6 Safety and Operating Labels

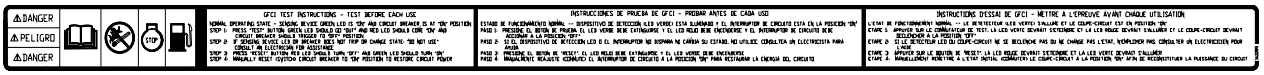
Wacker Neuson machines use international pictorial labels where needed. These labels are described below:

Label	Meaning
	WARNING! Hot surface!
	CAUTION Lifting point.
	Electrical ground
	Press circuit breaker switch to OFF position.
	Check the fuel level.

Label	Meaning
	Open the fuel flow valve.
	Press engine switch to ON position. GPS - Press ignition switch. GP - Pull the rewind starter.
	Press circuit breaker switch to ON position.
	Press engine switch to OFF position.
	Close the fuel flow valve.
 Using a generator indoors CAN KILL YOU IN MINUTES. Generator exhaust contains carbon monoxide. This is a poison you cannot see or smell.	
	NEVER use inside a home or garage, EVEN IF doors and windows are open.

Label	Meaning
	Only use OUTSIDE and far away from windows, doors, and vents.
	WARNING! To reduce the risk of electrical shock and arc flash, read the Operator's Manual. Improper connection of the generator to a building's electrical system can allow electrical current from the generator to backfeed into utility lines. This may result in electrocution of utility workers, fire, or explosion. Connections to a building's electrical system must be made by a qualified electrician and comply with all applicable laws and electrical codes.
	A nameplate listing the model number, item number, revision number, and serial number is attached to each unit. Please record the information found on this plate so it will be available should the nameplate become lost or damaged. When ordering parts or requesting service information, you will always be asked to specify the model number, item number, revision number, and serial number of the unit.
	This equipment **does not** meet California EVP emission regulations for small off-road engines.
	This machine may be covered by one or more patents.

Label	Meaning
	DANGER! No sparks, flames or burning objects near machine. Shut off the engine before refueling. Read the Operator's Manual for machine information.



GFCI TEST INSTRUCTIONS - TEST BEFORE EACH USE

Normal operating state - sensing device green LED is "ON" and circuit breaker is at "ON" position.

Step 1: Press "TEST" button. Green LED should go "OUT" and red LED should come "ON" and circuit breaker should trigger to "OFF" position.
Step 2: If sensing device LED or breaker does not trip or change state, "DO NOT USE". Consult an electrician for assistance.
Step 3: Press "RESET" button. Red LED should turn "OFF" and green LED should turn "ON".
Step 4: Manually reset (switch) circuit breaker to "ON" position to restore circuit power.

Notes:

2. Operation

2.1 Determining Power Requirements

This generator is designed to operate single-phase, 60 Hz appliances running at 120 VAC or 240 VAC. Check the nameplate or label provided on tools and appliances to make sure their power requirements match the power output of the generator.

Some appliances and tools require a surge of current when starting. This means that the amount of power needed to initially start the equipment is larger than the power required to keep it running. The generator must be capable of supplying this “surge” current. Other types of appliances require more power than is actually stated on their nameplate.

The information in “Approximate Starting Power Requirements” is offered only as a general guideline to help you in determining power requirements for different types of equipment. Check with your nearest Wacker Neuson dealer, or contact the manufacturer or dealer of the tool or appliance, with questions regarding its power requirements.

***NOTICE*:** If a tool or appliance does not reach full speed within a few seconds when switched on, turn it off immediately to avoid damage.

Approximate Starting Power Requirements

- Incandescent lights and appliances such as irons and hot plates, which use a resistive-type heating element, require the same wattage to start and run as is stated on their nameplates.
- Fluorescent and mercury lamps require 1.2–2 times their stated wattage to start.
- Electrical motors and many types of electrical tools often require a large starting current. The amount of starting current depends on the type of motor and its use.
- Most electrical tools require 1.2–3 times their stated wattage for starting.
- Loads such as submersible pumps and air compressors require a very large force to start. They need as much as 3–5 times the wattage stated on the nameplate in order to start.

If the wattage is not given for a particular tool or appliance, it can be calculated by multiplying its voltage and amperage requirements:

Single Phase: VOLTS x AMPS = WATTS

2.2 Installation

Place the generator in an area where it will not be exposed to rain, snow, or direct sunlight. Make sure it is positioned on firm, level ground, so it will not slide or shift. Position the engine exhaust away from areas where people may be present.

The surrounding area must be free from water and moisture. All components must be protected from excessive moisture.

Using a generator indoors CAN KILL YOU IN MINUTES. Generator exhaust contains carbon monoxide. This is a poison you cannot see or smell. NEVER use this generator inside a home or garage, EVEN IF doors and windows are open. Only use this generator OUTSIDE and far away from windows, doors, and vents.

NEVER install a generator in an enclosed area such as a tunnel or a trench. Using a generator in a tunnel or a trench CAN KILL YOU IN MINUTES. Generator exhaust contains carbon monoxide. This is a poison you cannot see or smell. NEVER use this generator inside a tunnel or a trench.

2.3 Wheel Kit

The wheel kit (Part No. 0161308) is a standard item on Item Number 0620012, 0620015, 0620043 and 0620046 only. It is available as an option on all other models.

2.3.1 Hoist the generator, and align the axle **(c)** with the lower cross-member of frame.

2.3.2 Insert the axle brackets **(k)** over the axle and align the holes found in the axle bracket to the holes of the cross-member. Ensure that the brackets extend under the tube of the frame.

2.3.3 Insert M6 x 16 screws **(l)** through the outer holes on the cross-member, then through the holes of the axle bracket.

2.3.4 Insert M6 nuts **(m)** onto the screws and tighten. Torque to 7.5 Nm (5.25 ft.lbs.).

2.3.5 Assemble the washers **(g)** next to the rings **(h)**, then add the wheels **(d)**.

2.3.6 Add the washers **(g)** next to the wheels, then insert the pins **(f)** into the holes of the axle and separate the legs of the pins.

2.3.7 Align the holes found in the leg bracket **(b)** to the holes of the lower cross-member.

2.3.8 Insert M6 x 16 screws **(l)** through the outer holes on the cross-member, then through the holes of the leg bracket.

2.3.9 Insert M6 nuts **(n)** onto the screws and tighten. Torque to 7.5 Nm (5.25 ft.lbs.).

2.3.10 Insert M8 x 30 screw **(o)** through the hole in the leg bracket and through the hole in cross-member.

2.3.11 Insert M8 nut (**p)** onto the screw and tighten. Torque to 18.75 Nm (13.5 ft.lbs.).

2.3.12 Align the holes in the rubber foot mounts **(e)** to the holes of the leg bracket.

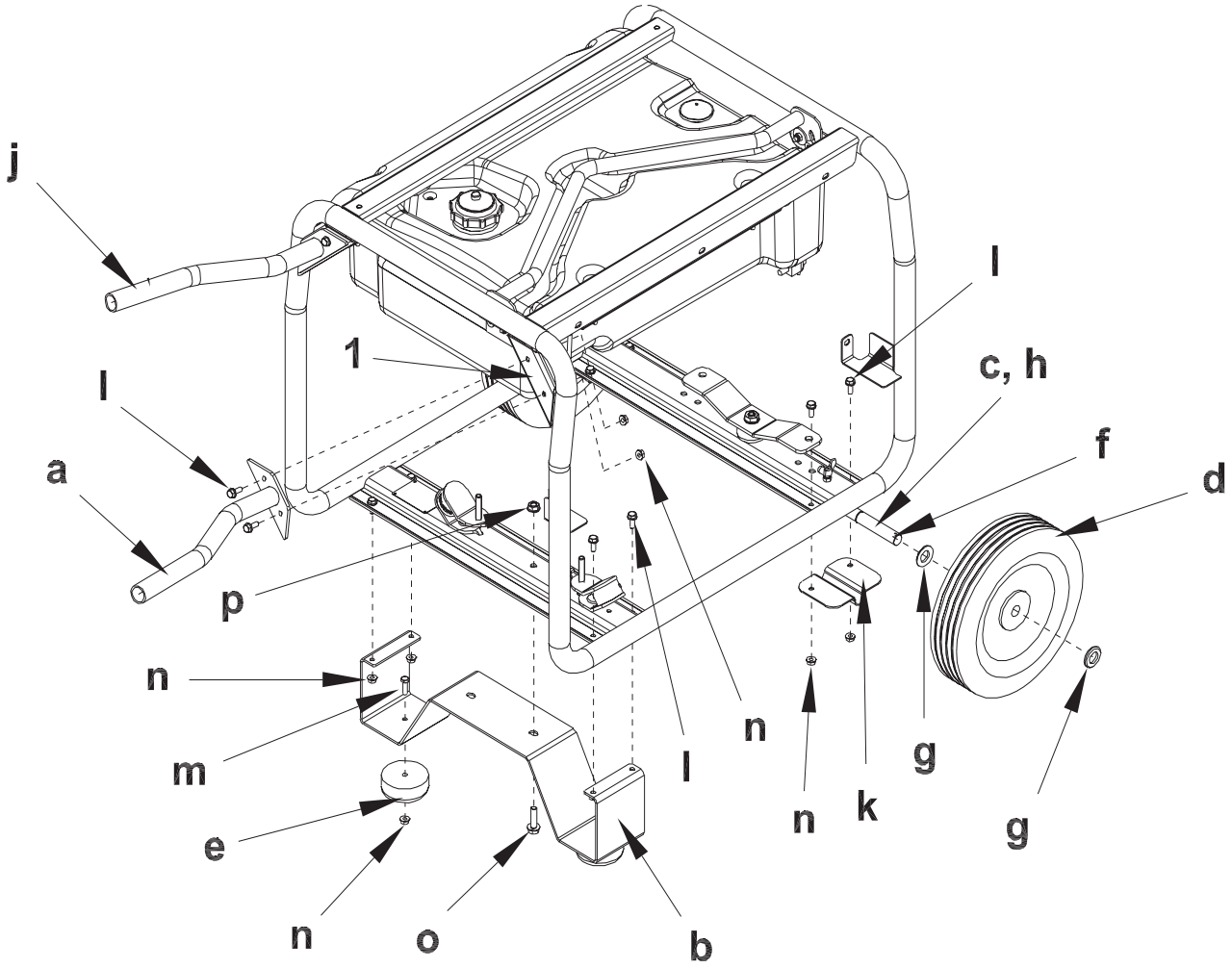
2.3.13 Insert M6 x 20 screws **(m)** through the leg bracket, then through the holes of the rubber foot mounts.

2.3.14 Insert the nuts **(n)** onto the screws and tighten. Torque to 7.5 Nm (5.25 ft.lbs.).

2.3.15 Align the holes found in the handles **(a, j)** to the holes of the brackets **(1)** on the frame.

2.3.16 Insert M6 x 16 screws **(l)** through the handles, then through the brackets on the frame.

2.3.17 Insert nuts **(m)** onto the screws and tighten. Torque to 7.5 Nm (5.25 ft.lbs.).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2.4 Generator Derating

All generators are subject to derating for altitude and temperature. Internal combustion engines, unless modified, run less efficiently at higher altitudes due to the reduction of air pressure. This translates into a lack of power and thus reduction in generator output. Temperature affects both engine and generator performance. As temperature increases, an engine will run less efficiently and more resistance will be found in electrical components. Therefore, as the temperature increases, the output of the generator decreases. Altitude also affects the cooling capacity of air—the higher the altitude the less dense the air is and thus the lower its ability to transfer heat.

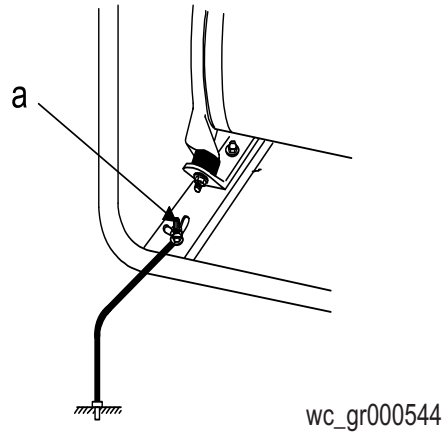
For every increase in altitude of 500 m (1650 ft.) above 1000 m (3300 ft.), the output of the generator will be reduced by 3%. For every increase of 5° C (9° F) in ambient temperature above 40° C (104° F), the output of the generator will be reduced by 3%. Use the tables shown for altitude and temperature deration factors. It may be necessary to consider both altitude and ambient temperature deration factors to determine true generator output.

Ambient Temp. °C (°F)	Derate	Factor
45 (113)	3 %	0.97
50 (122)	6 %	0.94
55 (131)	9 %	0.91
60 (140)	12 %	0.88

Altitude m (ft.)	Derate	Factor
1500 (4900)	3 %	0.97
2000 (6600)	6 %	0.94
2500 (8200)	9 %	0.91
3000 (9900)	12 %	0.88
3500 (11500)	15 %	0.85
4000 (13100)	18 %	0.82

2.5 Grounding the Generator

A ground connection **(a)** is located on the generator frame. For proper operating safety, this ground terminal must be connected to a good ground source. This ground connection must comply with National Electrical Code standards, and state and local regulations.



2.6 Operating Heavy Loads

Limit operations requiring the maximum rated output of 4000 W to 20–30 minutes. For continuous operation do not exceed the continuous rated output of 3600 W.

***NOTICE*:** DO NOT exceed the current limit specified on the control panel for any receptacle.

2.7 Use of Extension Cords

When a long extension cord is used to connect an appliance or tool to the generator, a voltage loss occurs—the longer the cord, the greater the voltage loss. This results in less voltage being supplied to the appliance or tool and increases the amount of current draw or reduces performance. A heavier cord with a larger wire size will reduce the voltage loss.

Damaged extension cords can cause electrical shock, resulting in serious injury or death. DO NOT use worn, bare, or frayed cords. Replace damaged cords immediately.

Use the chart below as a guide for selecting proper cable size.

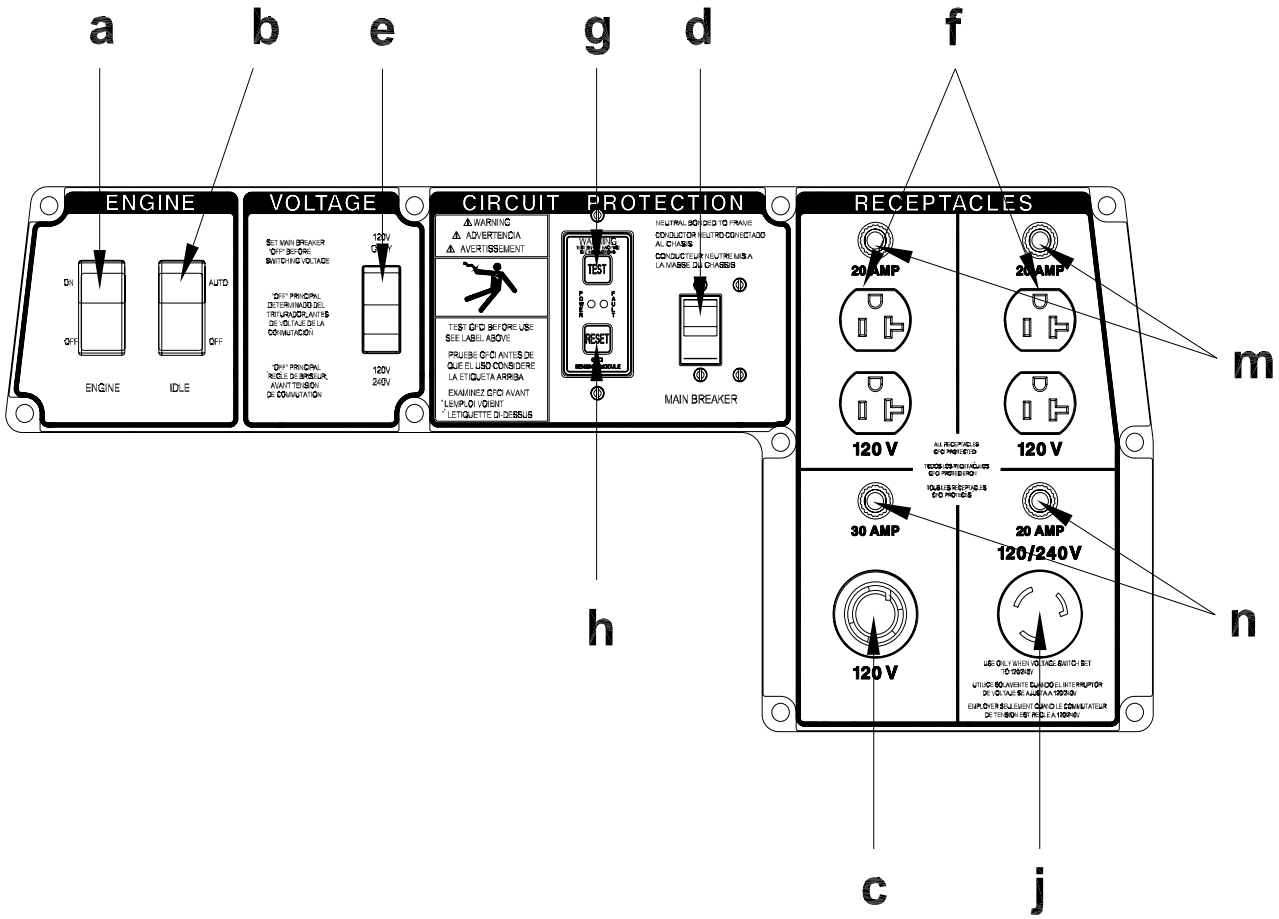
Current (Amps)	Load in Watts		Maximum Cable Length in Feet			
	120V	240V	#10	#12	#14	#16
2.5	300	600	1000.	600	375	250
5	600	1200	500	300	200	125
7.5	900	1800	350	200	125	100
10	1200	2400	250	150	100	-
15	1800	3600	150	100	65	-
20	2400	4800	125	75	50	-

Use only extension cords rated for outdoor use and equipped with a third-wire ground.

***NOTICE*:** Operating equipment at low voltage can cause it to overheat.

2.8 Control Panel

Ref.	Description	Ref.	Description
a	Engine Switch	g	GFCI test button
b	Auto Idle Switch	h	GFCI reset button
c	Twist-lock receptacle - 120V	j	Twist-lock receptacle - 120/240V
d	Main Circuit Breaker	m	20A circuit breaker (CAN only)
e	Voltage Selector Switch	n	30A circuit breaker (CAN only)
f	Duplex receptacle - 120V		



2.9 Ground Fault Circuit Interrupter (GFCI)

The GFCI should be tested for proper operations every time the generator is used.

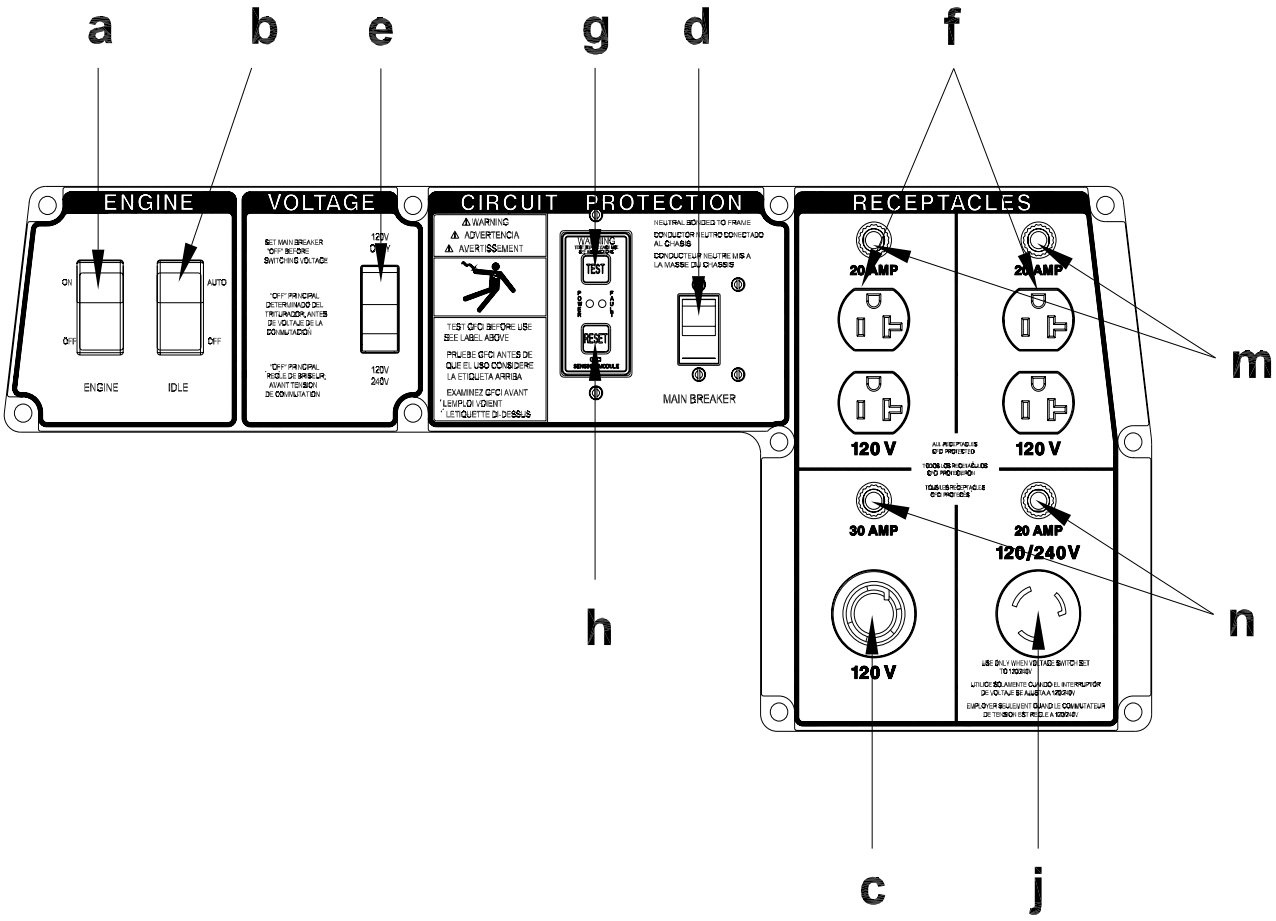
Normal operating state - sensing device green LED is “ON” and circuit breaker is at “ON” position.

2.9.1 Press “TEST” button **(g)**. Green LED should go “OUT” and red LED should come “ON” and circuit breaker should trigger to “OFF” position **(d)**.

2.9.2 If sensing device LED or breaker does not trip or change state, “DO NOT USE”. Consult an electrician for assistance.

2.9.3 Press “RESET” button **(h)**. Red LED should turn “OFF” and green LED should turn “ON”.

2.9.4 Manually reset (switch) circuit breaker to “ON” position to restore circuit power **(d)**.



2.10 Twist-Lock Receptacles

Twist-lock receptacles **(c, j)** are used at the 120V Amp and 120/240V outlets. These receptacles are protected by the GFCI.

To attach a power cord to a twist-lock receptacle, insert plug into receptacle and turn it clockwise to lock it in place.

2.11 Engine Auto Idle

The auto idle switch **(b)** automatically reduces engine speed approximately 7 seconds after all appliances or tools attached to the generator have been turned off. The engine automatically returns to full speed when a tool or appliance is turned back on.

To turn the auto idle feature on, push the auto idle switch to “AUTO”. The AUTO setting is recommended while the generator is running to minimize fuel consumption. To avoid extended engine warm-up periods, keep switch set to “OFF” when starting the engine and until the engine reaches operating temperature.

2.12 Engine Speed

Generators require a fixed engine speed to maintain the correct voltage. Engine speed is controlled by a governor which automatically adjusts to varying loads on the engine to maintain a constant speed. See *Technical Data*. There is no throttle control. Use the Auto Idle switch on the generator to control engine speed.

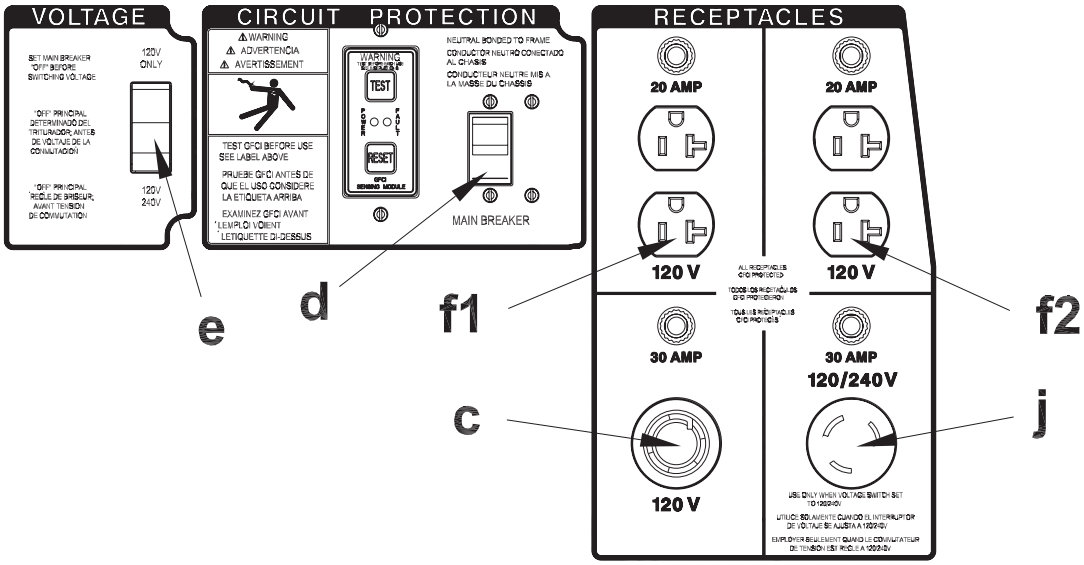
2.13 Voltage Selection

The voltage selector switch **(e)** allows the generator to operate in either single (120V) or dual voltage (120/240V) mode.

In single-voltage mode, use only the 120V twist-lock **(c)** and duplex receptacles **(f1**, **f2)**. The full rated power of the generator is shared between the three receptacles.

In dual voltage mode both the 120V and 120/240V receptacles are powered; lower watts are available on receptacles **(f1**, **f2**, **c)**. The 120/240V twist-lock receptacle **(j)** should be used in dual mode only. To achieve full power in this receptacle it should be used alone.

***NOTICE*:** NEVER switch the voltage selector switch with the main breaker on! This can cause arcing and can damage the generator. Turn all tools and appliances off and place main breaker **(d)** in the OFF position before changing voltage switch position.



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2.14 Before Starting

2.14.1 Read and understand the safety and operating labels and instructions at the beginning of this manual.

2.14.2 Inspect the generator for any signs of damage which may affect operation or pose a safety hazard.

2.14.3 Check:

- oil level in engine
- fuel level
- condition of air cleaner
- tightness of external fasteners
- condition of fuel lines.

Note: *The engine is equipped with an oil alert system. If the oil level in the engine drops too low, the engine will not start.*

2.14.4 Fill the fuel tank with fresh, regular, unleaded grade gasoline. DO NOT use an oil/gas mixture. The use of gasohol or any fuel containing more than 10% ethanol is not recommended. Consult the engine owner's manual for complete fuel specifications.

NOTICE: Fill the tank after placing the machine on level ground.

2.15 To Start

Before starting, be sure you read and understand all the safety and operating instructions in this manual.

2.15.1 Ensure that the generator is properly installed in an outdoor location. See Sections *Installation* and *Operator Safety while using Internal Combustion Engines* for installation warnings and safety guidelines.

2.15.2 Disconnect all loads from the generator and place the main breaker in the "OFF" position **(a2)**.

2.15.3 Set the Auto Idle Switch **(c)** to "OFF".

2.15.4 Open the fuel valve **(d1)**.

Note: *If the engine is cold, move the choke lever to the closed position* **(e2)**. *If the engine is hot, set the choke to the open position* **(e1)**.

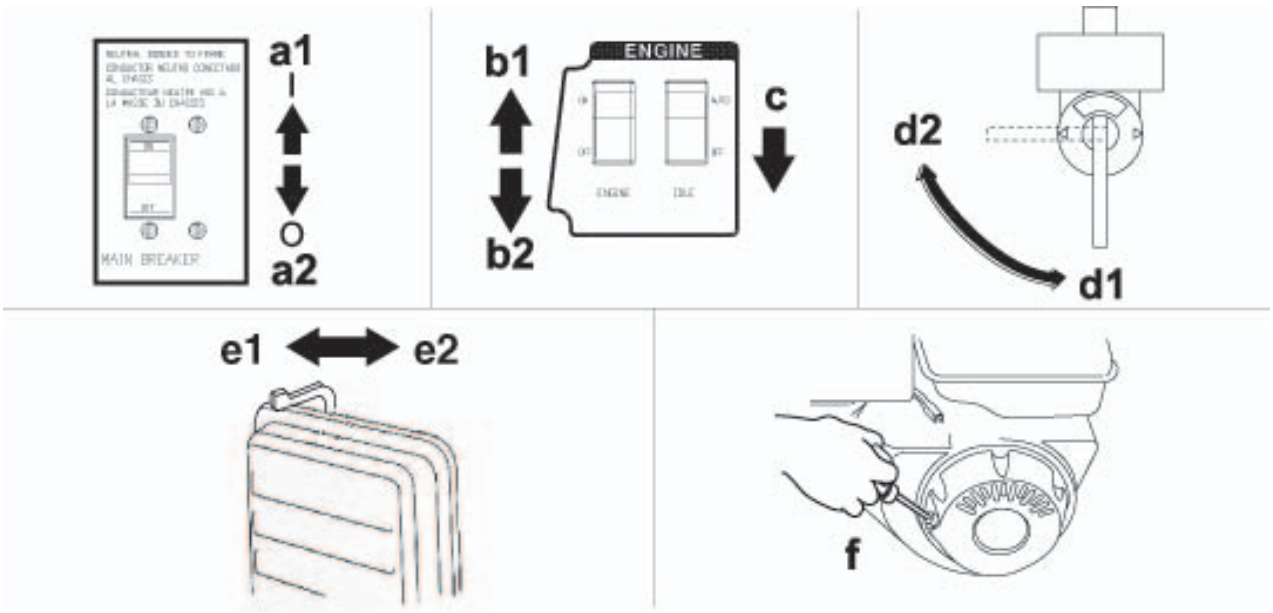
2.15.5 Turn the engine switch to "ON" **(b1)**.

2.15.6 Pull the starter rope **(f)**.

Note: *If the oil level in the engine is low, the engine will not start. If this happens, check the oil level and add oil as needed.*

2.15.7 As the engine warms up, move the choke lever to the OPEN position **(e1)**.

2.15.8 Allow the engine to warm up for a few minutes before placing the main breaker in the "ON" position **(a1)** and attaching loads.



2.16 To Stop

2.16.1 Turn off and disconnect all tools and appliances attached to the generator.

2.16.2 Place the main circuit breaker in the OFF position **(a2)**.

2.16.3 Place the engine switch to OFF **(b2)**.

2.16.4 Close the fuel valve **(d2)**.

Note: *To stop the engine quickly in an emergency, turn the engine switch to OFF* **(b2)**.

3. Maintenance

3.1 Engine Maintenance

The chart below lists basic machine and engine maintenance. Refer to your engine operator's manual for additional information on engine maintenance.

3.2 Periodic Maintenance Schedule

	Daily before starting	After first 20 hrs.	Every 50 hrs.	Every 100 hrs.	Every 300 hrs.
Check the fuel level.	■				
Check the engine oil level.	■				
Inspect the air filter. Replace as needed.	■				
Check external hardware.	■				
Clean the air cleaner element.*			■		
Inspect the shockmounts for damage.				■	
Change the engine oil.*		■		■	
Clean the sediment cup or fuel strainer.				■	
Check and clean the spark plug.				■	
Check and adjust the valve clearance.					■
Clean the fuel tank.*					■
Check condition of the fuel lines. Replace when necessary.					■

*Service more frequently in dusty conditions.

3.3 Engine Oil

3.3.1 Drain the oil while the engine is still warm.

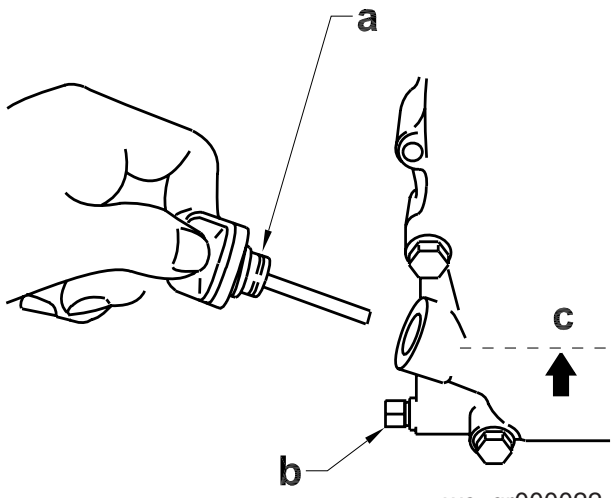
3.3.2 Remove the oil filler plug **(a)** and the drain plug **(b)** to drain the oil.

Note: *In the interests of environmental protection, place a plastic sheet and a container under the machine to collect any liquid that drains off. Dispose of this liquid in accordance with environmental protection legislation.*

3.3.3 Install the drain plug.

3.3.4 Fill the engine crankcase with the recommended oil up to the level of the plug opening **(c)**. See section *Technical Data* for oil quantity and type.

3.3.5 Install the oil filler plug.



3.4 Servicing Air Cleaner

Service the air cleaner frequently to prevent carburetor malfunction.

***NOTICE*: NEVER** run the engine without the air cleaner. Severe engine damage will occur.

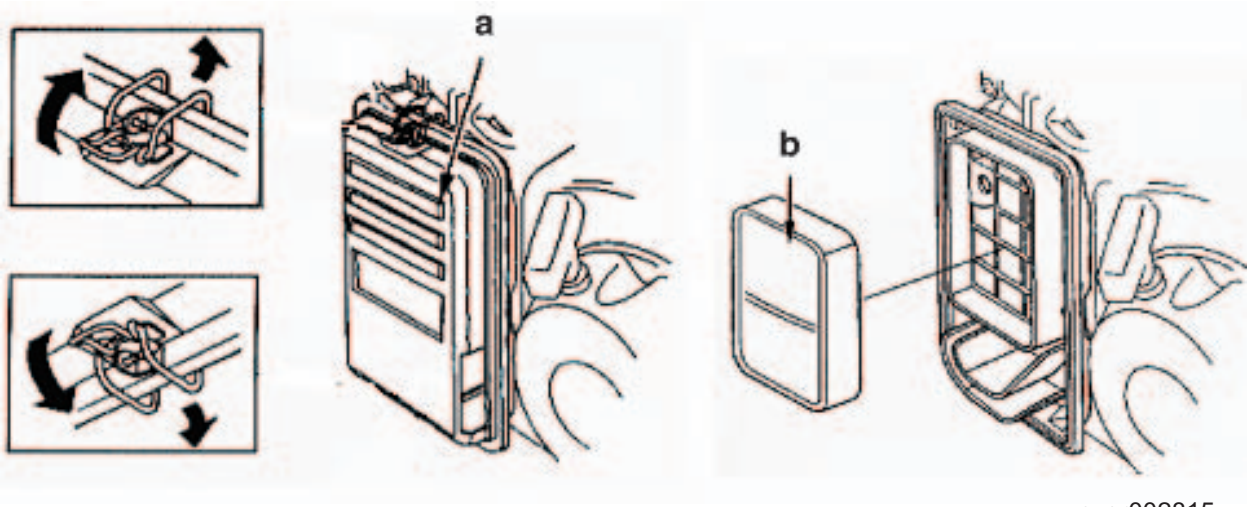
WARNING

NEVER use gasoline or other types of low flash-point solvents for cleaning the air cleaner. A fire or explosion could result.

To service:

3.4.1 Remove the air cleaner cover **(a)**. Inspect the element **(b)** for holes or tears. Replace the element if it is damaged.

3.4.2 Wash the foam element **(b)** in a solution of mild detergent and warm water. Rinse it thoroughly in clean water. Allow the element to dry thoroughly. Soak the element in clean engine oil and squeeze out excess oil.



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3.5 Spark Plug

Clean or replace the spark plug as needed to ensure proper operation. Refer to your engine operator's manual.

WARNING

The muffler becomes very hot during operation and remains hot for a while after stopping the engine. Do not touch the muffler while it is hot.

Note: *Refer to section "Technical Data" for the recommended spark plug type and the electrode gap setting*.

3.5.1 Remove the spark plug and inspect it.

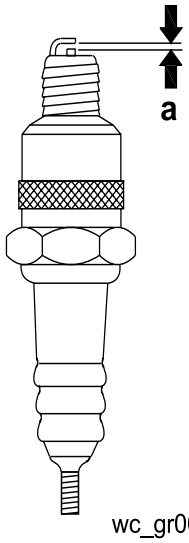
3.5.2 Replace the spark plug if the insulator is cracked or chipped.

3.5.3 Clean the spark plug electrodes with a wire brush.

3.5.4 Set the electrode gap **(a)**.

3.5.5 Tighten the spark plug securely.

***NOTICE*:** *A loose spark plug can become very hot and may cause engine damage*.



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3.6 Storage

Before storing the generator for a long period of time:

3.6.1 Close the fuel valve and remove and empty the sediment cup or fuel strainer.

3.6.2 Disconnect the fuel line from the carburetor. Place the open end of the fuel line into a suitable container and open the fuel valve to drain the fuel from the tank.

WARNING

Gasoline is extremely flammable. Drain the fuel tank in a well-ventilated area. DO NOT drain the fuel tank in an area with flames or sparks.

3.6.3 Loosen the drain screw on the carburetor and drain any remaining fuel from the carburetor.

3.6.4 Change the engine oil.

3.6.5 Remove the spark plug and pour approximately 30 ml (1 ounce) of clean engine oil into the cylinder. Crank the engine a few turns to distribute the oil to the inside of the cylinder walls.

3.6.6 Pull the starter rope slowly until resistance is felt and leave the handle in this position. This ensures that the intake and exhaust valves are closed.

3.6.7 Store the generator in a clean, dry area.

3.7 Transport

WARNING

Let the engine cool before transporting the generator or storing it indoors, to avoid burns or fire hazards.

When transporting the generator:

3.7.1 Turn the engine fuel valve to the OFF position.

3.7.2 Position the generator level to prevent fuel from spilling.

3.7.3 Secure the generator by tying it down with a suitable rope.

WARNING

When transporting the machine by hand, be sure to employ manpower commensurate with the weight of the machine. To avoid back injury when lifting the machine, bend the knees to pick it up rather than bending your back only.

3.8 Troubleshooting

Problem / Symptom	Reason / Remedy
If engine doesn't start, check that:	• Engine switch is on “Start”. • Fuel valves under fuel tank and on engine are open. • Fuel tank has fuel. • Choke lever is in correct position. Choke should be closed when starting a cold engine. • All loads are disconnected from generator. • Spark plug is in good condition. • Spark plug cap is tight. • Engine oil level is adequate.
If engine starts but there is no power at receptacles, check that:	• Circuit breaker is closed. • Connector from generator to control panel is tight.
If engine starts but runs erratically, check that:	• Hose routing from the fuel tank to the engine is correct. For proper operation, the hose must run through the bushing in the lifting bracket. Refer to the Parts Book for illustration.
If the GFCI trips when a load is connected, check that:	• The connected equipment may be wired incorrectly or faulty. Contact equipment supplier. • See section *Determining Power Requirements.*

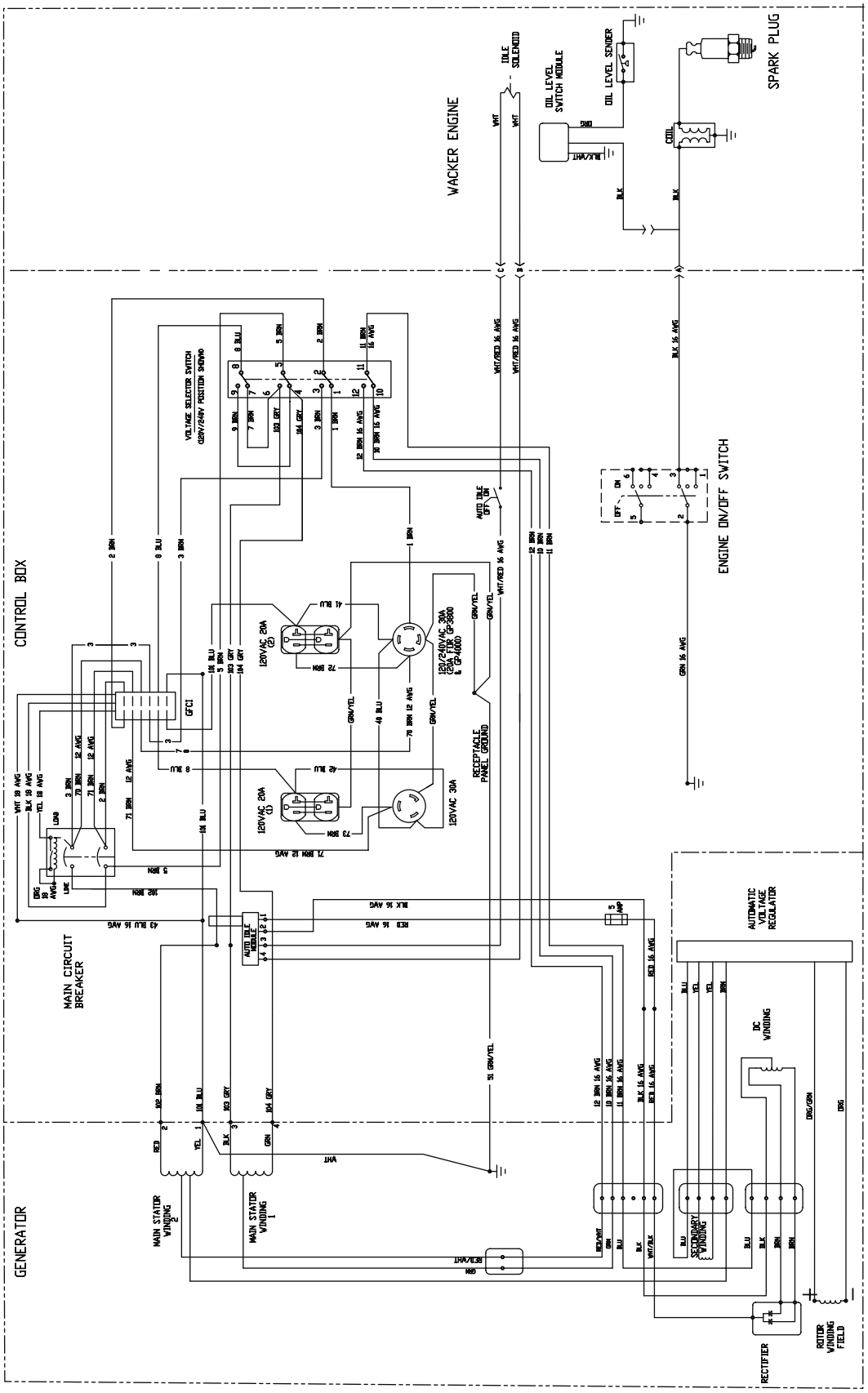
3.9 Wire Colors

Wire Colors							
B	Black	R	Red	Y	Yellow	Or	Orange
G	Green	T	Tan	Br	Brown	Pr	Purple
L	Blue	V	Violet	Cl	Clear	Sh	Shield
P	Pink	W	White	Gr	Gray	LL	Light blue

3.10 Electrical Schematic

Ref.	Description	Ref.	Description
A	Generator	D	Wacker Neuson Engine
B	Control box		

Ref.	Description	Ref.	Description
1	Main stator winding 1	12	Engine ON / OFF switch
2	Main stator winding 2	13	Rectifier
3	Auto idle unit	14	Rotor winding/brushes
4	Main circuit breaker	15	Secondary (excitation) winding
5	Voltage selector switch (120/240V position shown)	16	DC winding
6	Duplex receptacle—120V	17	Automatic voltage regulator (AVR)
7	Twist-lock receptacle—120V	20	GFCI
8	Twist-lock receptacle—120/240V	21	Neutral bond wire
9	Auto idle switch		
10	5A fuse		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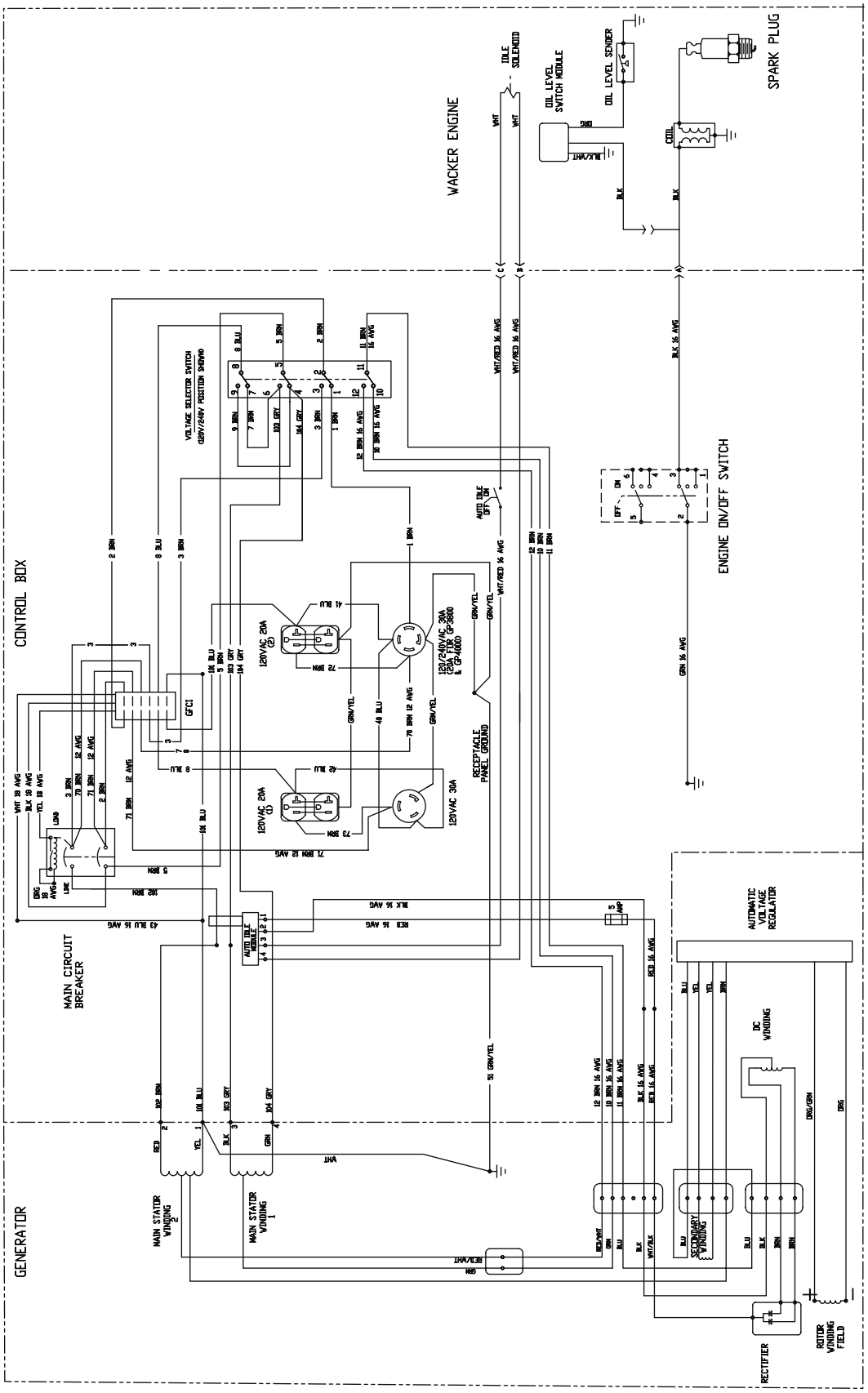
WACKER ENGINE
IDLE SOLENOID
OIL LEVEL SWITCH MODULE
OIL LEVEL SENDER
SPARK PLUG
COIL
ENGINE ON/OFF SWITCH
CONTROL BOX
VOLTAGE SELECTOR SWITCH
GFCI
120VAC 20A
120/240VAC 30A
RECEPTACLE PANEL GROUND
AUTO IDLE MODULE
MAIN CIRCUIT BREAKER
AUTOMATIC VOLTAGE REGULATOR
DC WINDING
SECONDARY WINDING
MAIN STATOR WINDING 2
MAIN STATOR WINDING 1
GENERATOR
RECTIFIER
ROTOR WINDING FIELD

3.11 Electrical Schematic (CAN models only)

Ref.	Description	Ref.	Description
A	Generator	D	Wacker Neuson Engine
B	Control box		

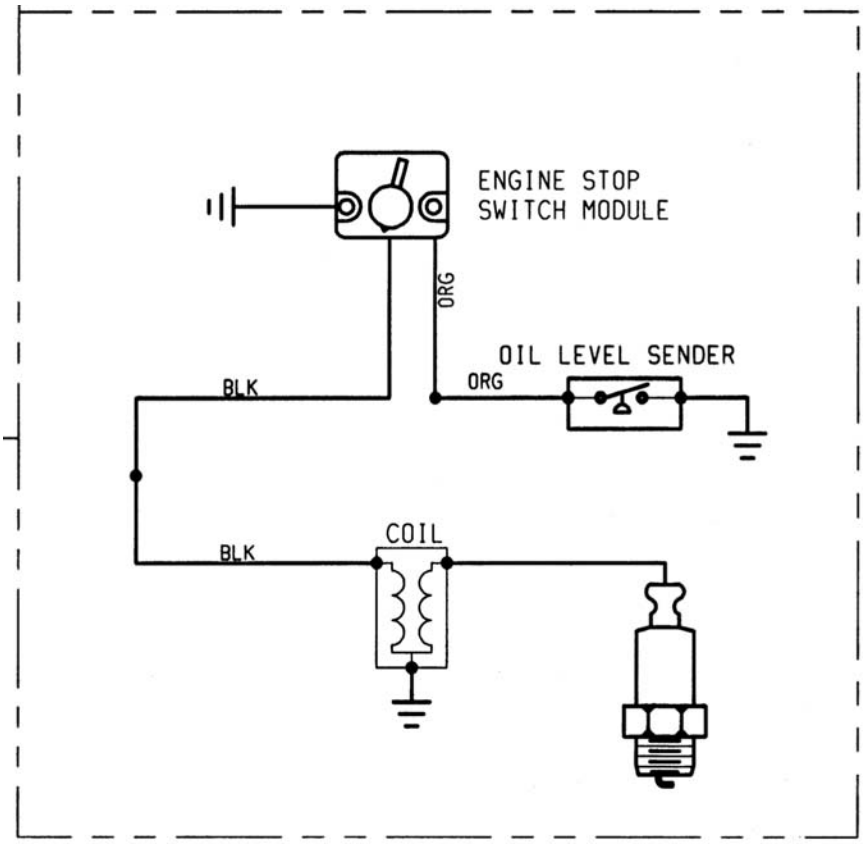
Ref.	Description	Ref.	Description
1	Main stator winding 1	13	Rectifier
2	Main stator winding 2	14	Rotor winding/brushes
3	Auto idle unit	15	Secondary (excitation) winding
4	Main circuit breaker	16	DC winding
5	Voltage selector switch (120/240V position shown)	17	Automatic voltage regulator (AVR)
6	Duplex receptacle—120V	20	GFCI
7	Twist-lock receptacle—120V	21	20A circuit breaker
8	Twist-lock receptacle—120/240V	22	20A circuit breaker (GP 3800 CAN and GP4000 only)
9	Auto idle switch	23	30A circuit breaker (GP 5600/6600 CAN only)
10	5A fuse	24	Neutral bond wire
12	Engine ON / OFF switch		


wc_gr004563
WACKER ENGINE
IDLE SOLENOID
OIL LEVEL SWITCH MODULE
OIL LEVEL SENDER
SPARK PLUG
COIL
ENGINE ON/OFF SWITCH
CONTROL BOX
VOLTAGE SELECTOR SWITCH
GFCI
RECEPTACLE PANEL GROUND
120VAC 20A
120VAC 30A
120/240VAC 30A
AUTO IDLE MODULE
MAIN CIRCUIT BREAKER
AUTOMATIC VOLTAGE REGULATOR
DC WINDING
SECONDARY WINDING
MAIN STATOR WINDING 2
MAIN STATOR WINDING 1
RECTIFIER
ROTOR WINDING FIELD
GENERATOR

3.12 Engine Schematic

Ref.	Description	Ref.	Description
A	Generator	D	Wacker Neuson Engine
B	Control box		
C	Electric start engines (GPS)		

Ref.	Description
1	Idle solenoid
3	Oil alert module
4	Oil level switch
5	Coil


ENGINE STOP
SWITCH MODULE
ORG
OIL LEVEL SENDER
BLK
ORG
BLK
COIL

4. Technical Data

4.1 Generator

Item No.		**GP 4000** 0620380 0620090
Generator		
Maximum Output	W	4000
Continuous Output	W	3600
Type		Dual voltage, single phase, Auto voltage regulator system
AC Voltages Available	volts phase	120 / 240 1ø
Frequency	Hz	60
Power Factor		1.0
AC receptacles: 125V duplex 125V duplex 125V twist-lock 125V/250V twist-lock	 amp amp amp amp	 20 20 30 20
Main Circuit Breaker	amp	2-pole, 17 amp each pole
L x W x H	mm (in.)	685 x 530 x 535 (27 x 21 x 21.2)
Weight (dry)	Kg (lbs.)	69 (152)

4.2 Engine

Engine Power Rating

Net power rating per SAE J1349. Actual power output may vary due to conditions of specific use.

Item No.		**GP 4000** 0620380 0620090
Engine		
Engine Type		4-stroke, overhead valve, single cylinder
Engine Make		Wacker Neuson
Engine Model		WM 270
Max. Rated Power @ Rated Speed	kW (Hp)	6.6 (9) @ 4000 rpm
Spark Plug		(NGK) BR 6HS Champion RL86C
Electrode Gap	mm (in.)	0.6–0.7 (0.024–0.028)
Operating Speed	rpm	3600
Air Cleaner	type	Dry type with oil-wetted foam pre-cleaner
Auto Idle VAC	high idle low idle	119 90
Engine Lubrication	oil grade	SAE 10W30, SE or higher
Engine Oil Capacity	l (oz.)	1.1 (37)
Fuel	type	Regular unleaded gasoline
Fuel Tank Capacity	l (gal.)	19.5 (5.2)
Fuel Consumption	l (gal.)/hr.	2.4 (0.63)
Running Time	hrs.	8.3

Wacker Neuson SE · Preußenstraße 41 · D-80809 München · Tel.: +49-(0)89-3 54 02-0 · Fax: +49 - (0)89-3 54 02-390
Wacker Neuson Corporation · P.O. Box 9007 · Menomonee Falls, WI 53052-9007 · Tel. : (262) 255-0500 · Fax: (262) 255-0550 · Tel. : (800) 770-0957
Wacker Neuson Limited - Room 1701–03 & 1717–20, 17/F. Tower 1, Grand Century Place, 193 Prince Edward Road West, Mongkok, Kowloon, Hongkong.
Tel: (852) 3605 5360, Fax: (852) 2758 0032